

## **PRACTICAL EXERCISE 2**

### **INTRODUCTION, MATERIALS AND METHODS, RESULTS, DISCUSSION**

1. Manuscript on “Frequency of infantile diarrhea”:

Comment on the following sections:

- (a) Introduction
- (b) Materials and methods
- (c) Results
- (d) Discussion

## FACTORS AFFECTING THE FREQUENCY OF INFANTILE DIARRHEA

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### ABSTRACT

**Objective:** Diarrhea is worldwide, one of most common illnesses among children. The objective of this study was to look for various factors contributing the infantile diarrheal episodes, especially feeding practices, that operate in this locality.

**Design:** Cross-sectional.

**Place and duration of study:** Outpatient department of DHQ/Teaching hospital Dera Ismail Khan during month of July 2003.

**Subjects and Methods:** It was cross-sectional study, interviewing one hundreds feeding mothers. A questionnaire was constructed to collect information's through convenient sampling method about feeding practices and other relevant risk factors.

**Statistical Analysis:** Descriptive statistical analysis.

**Results:** This study revealed that diarrhea episodes were more common 84% in formula-fed infants as compared to breast-fed infants 16%. Infants belonging to rural population suffered more 60%. Literacy level was 22 % among feeding mothers. 38% mothers were totally unaware about the advantages of breast-feeding while knowledge level among those who knew the merits of breast-feeding was up to the mark only in 20% mothers.

**Conclusion:** This study explored the factual position of poor health messaging in general public regarding advantageous role of breast-feeding to prevent frequent diarrhea episodes in infants. There is urgent need to address this issue through effective communication strategies, promotion of baby friendly hospital initiative and enforcement of Infant Protection and Child Nutrition Ordinance 2002.

### INTRODUCTION

Around the world diarrhea remains one of the most common illnesses among children<sup>(4)</sup>. Although diarrhea kills about 4 million people in developing countries each year, it remains a problem in developed countries as well. Diarrhea is common in all age groups but more common in infants. Annually at least 1500 million episodes of diarrhea occur in children under age of 5 years.

A bi-monthly magazine "Health and Consumers" published in October 2004, disclosed that in Pakistan, 3500 infants die in a month due to diarrhea mainly caused by consuming powder milk. In all a total of 77,000 infants died so far in the country due to non-implementation of Infant Protection and Child Nutrition Ordinance 2002.

Diarrhea is a loose or watery bowel movements and change in frequency or consistency of stools from a child's normal pattern. Diarrhea removes essential body fluids and vital nutrients causing dehydration and malnutrition<sup>(5,6)</sup>. The enormous infantile

death toll can be prevented by promotion of breast-feeding, adoption of simple hygienic measures and standard case management.

A serious concern has been raised by wide spread use of formula feeding. A WHO study revealed risk of diarrhea for formula-fed babies in developing nations averaging more than 6 times that of breast-feeding babies.

Formula-fed feeding is associated with multiple problems like respiratory<sup>(1,2,11,15)</sup> and GIT infections<sup>(17)</sup>, lower scores on tests of neurological development<sup>(7,13,14)</sup>, increased risk of type 1 diabetes mellitus<sup>(9)</sup>, increased risk of intestinal disorders (ulcerative colitis, crohn's disease)<sup>(10,12,16)</sup> and lymphoma cancer<sup>(8)</sup>.

An enormous and still growing body of medical research demonstrates that breast-feeding is optimal choice for baby feeding<sup>(18)</sup>. It is only recently that modern scientific research has brought to light the paramount importance of breast-feeding to the health of child. Islam has known to emphasize this fact for some 1400 years ago.

The verse from *Sura Al -Baqarah* tell us:

*'Mothers shall suckle their children for two whole years; (that is) for those who wish to complete suckling. The duty of feeding and clothing nursing mothers in a seemly manner is upon the father of the child'.*

Similarly there are sayings of Holy Prophet Muhammad (Peace be upon Him) stressing breast-feeding the infants.

Women are also empowered by breast-feeding. It is one of unique powers of womanhood to provide perfect food for a baby, with only her own body.

In this study, we were interested in comparing the frequency of diarrhea in breast fed versus formula fed babies in this locality. Moreover we also looked for various factors affecting feeding pattern, like mothers' knowledge, literacy status, socio-economic conditions were also assessed.

## MATERIALS AND METHODS

This study was conducted in outpatient department of District Hospital Dera Ismail Khan, NWFP, Pakistan during month of July 2003. The design was comparative cross sectional. Convenient sampling method was chosen. One hundred feeding – mothers were interviewed during the course of their visit to the hospital, seeking care for their diarrhea suffering infants. Interview was conducted on a questionnaire that was closed-ended formatted.

Information was collected regarding 100 infants, from age zero to one year, who were brought to the outpatient diarrhea for diarrhea management. Feeding practices and other relevant history were assessed via questionnaire. Socio-economic characteristics were also part of the interview tool.

Medical students did fieldwork after receiving training in study conduction. The data collection activity was supervised and monitored for quality assurance. It was expected that, at the end of exercise, the information collected would be sufficiently reliable and appropriate to explain the situation.

Children Unit of the hospital facilitated the process of data collection. Ethical constructs included informed consent from interviewers and maintaining interviewer/patient confidentiality. Descriptive statistical analysis performed on the data generated through these interviews.

## RESULTS

We studied 100 cases, 50 cases of breast-feeding and 50 cases of formula feeding. Compiling the results revealed that 84% were having repeated epi-

sodes of diarrhea in formula feeding as compared to breast fed infants in which only 16% cases were having repeated episodes of diarrhea.

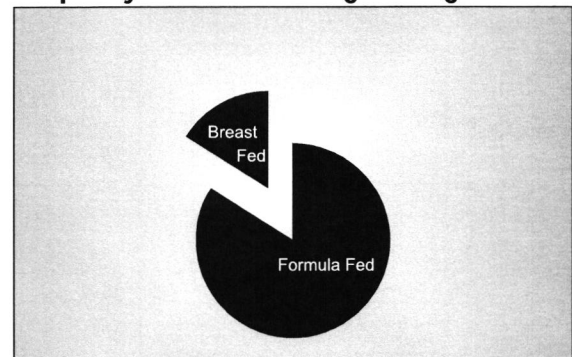
It was found that diarrhea was more common in rural area, 60% in rural children compared to 40% among urban.

78% of mothers were illiterate and 22% were literate.

Mothers of diarrhea suffering infants were by and large housewives (96%). Fathers of the ailing infants were either employed or self-employed 72% but they had a low-income status 85%.

It was also pointed that 64% of population was having knowledge about disadvantages of formula feeding but interestingly among them 80% were found to have little and poor quality knowledge.

## Frequency of Diarrhea among Feeding Practices



## DISCUSSION

This study conformed to the common and established finding that diarrheal episodes are more frequent in formula fed infants than in the breast-fed<sup>(19,20,21)</sup>. This paper also reinforces the finding that non-breast feeding is a major risk factor in diarrhea causation.

Infant formula is basically designed to be a medical nutritional tool to feed children of such mothers who are unable to breast-feed. Formula feeds do not fully meet the nutritional and immunity needs of infants.

Literacy level is very low in rural area; the same is correlated in our study that also reflected as a bad influencing factor for diarrhea.

Possibility that working women status could interfere with breast – feeding, failed to prove in this study.

Low socio-economic status of parents corresponded with greater vulnerability of their infants, irrespective of the mode of feeding.

Mothers were usually aware of demerits of formula feeds but understanding of knowledge was not up to the mark.

### CONCLUSIONS & RECOMMENDATIONS

This study raises the issue of poor health message communication to the general public regarding beneficial role of breast-feeding to prevent frequent episodes of infantile diarrhea. This common illness is not yet properly addressed through health education.

All infants, unless medically indicated, should ideally receive human milk exclusively for 6 months and continue to get milk as their primary food for first 2 years of life.

Following suggestions are recommended:

1. Develop multi-media approaches to promote positive breast-feeding images that focus not only on mothers and newborn, but are aimed at all segments of society.
2. Incorporate breast-feeding information/promotion into baby first campaign.
3. Breast-feeding counseling should be carried out by motivated personnel especially trained for this purpose.
4. Promote application of baby-friendly hospitals across the sectors together with educating the communities about these baby friendly hospital initiatives of WHO/UNICEF.
5. Conduct media watch efforts to respond to both negative and positive portrayals of breast-feeding.
6. All hospitals with obstetric services need to have certified lactation consultants on staff.
7. Health care providers should discuss the benefits of breast-feeding at first prenatal contact and re-enforce those messages throughout pregnancy, enabling mothers to make informed infant - feeding choices.
8. Enforcement of Infant Protection and Child Nutrition Ordinance 2002.

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